

Notice of Allowability

Application No.

09/989,497

Applicant(s)

YAO ET AL.

Examiner

Stephen Gucker

Art Unit

~~1045~~ 1649

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/14/05.
2. ☒ The allowed claim(s) is/are 23, 25-31, renumbered as 1-8, respectively.
3. ☒ The drawings filed on 05 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment — SAME PAPER
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

JANET ANDRES
PRIMARY EXAMINER

EXAMINER'S AMENDMENT & REASONS FOR ALLOWANCE

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1649.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robin Teskin on 5/27/05.

An examiner's amendment to the record appears below.

In the specification:

Page 1, lines 1-2, deleted "Application Serial No. 09/984,292".

Page 1, line 1, inserted after "of":

--Patent 6,818,747 B2--.

Page 7, line 9, inserted after "09/510,332 filed February 22, 2000":

--, now abandoned--.

In the claims:

Canceled claims 1-22, 24, and 32-39

In claim 23, line 4, deleted the phrase "according to claim 1".

In claim 23, line 4, inserted after "protein":

--which is a mutated Gq protein that is identical to the amino acid sequence contained in SEQ ID NO:1 or SEQ ID NO:37 except for the replacement of the last 5 amino acid residues with the corresponding last 5 amino acid residues from the carboxyl terminus of a $G\alpha_{off}$ protein or a transducin protein--.

In claim 23, lines 5-6, deleted "Gq protein variant" and replaced with:

--Gq variant protein--.

In claim 30, lines 1-2, deleted everything after "variant protein".

In claim 30, inserted after "variant protein": --comprises either SEQ

ID NO:6, SEQ ID NO:7, SEQ ID NO:13, SEQ ID NO:17, or SEQ ID NO:19.--.

Art Unit: 1649

3. The following is an examiner's statement of reasons for allowance: the instant allowed claims are the methods of using a genus of allowed products in a screening assay from parent application 09/984,292, now U.S. 6,818,747 B2, issued November 16, 2004. In addition, the closest prior art of record is Strathmann et al. (*PNAS*, Vol.87, pages 9113-9117, December, 1990) which discloses a protein in Figure 1A on page 9114 that is greater than 96% identical to SEQ ID NO:13, but is less than 100% identical.

The main inventive contribution of the instant Application is to exemplify the use of previously patented man-made G-proteins in industrial assays screening for new flavoring and odorant compounds, and not the actual method steps themselves *per se*, so the scope and metes and bounds of the instant claims are appropriate for the previously patented subject matter being applied in well-known screening assays involving G-proteins. For example, instant claim 23 which recites "determining the functional effect of said compound" does have a well-recognized meaning in the art and appropriate scope for a genus of screening methods for guanine nucleotide binding proteins because of the art-recognized and well-known depth and complexity that guanine nucleotide binding proteins (hence, the term G-protein binding proteins) play in cellular signal transduction at both the molecular biological level of the cell membrane and intracellular signaling machinery (e.g., see *Goodman & Gilman's The Pharmacological Basis of Therapeutics, 9th Ed., 1996*, pages 32-35, where G proteins are listed as affecting adenylyl cyclase, calcium currents, potassium currents, Na⁺/H⁺ exchange, the superfamily of phospholipases, cGMP-phosphodiesterase, receptor

Art Unit: 1649

binding, transport proteins, etc.) . "G protein-coupled receptor-effector systems provide impressive examples of such integration, as well as the ability to direct a signal to divergent cellular effectors" (*Goodman & Gilman's The Pharmacological Basis of Therapeutics, 9th Ed., 1996, page 33*). These divergent functional effects of the actions of G-proteins are appropriately recited in dependent claims 26 through claim 29, which explicitly recite different methodological sub-genera encompassed by instant claim 23, and provide the necessary context and literal commensurate support both through what is disclosed by the instant specification and by claim differentiation for the phrase "determining the functional effect of said compound" that is recited in independent claim 23. The artisan guided by the specification would immediately realize which multiple binding, enzymatic, or electrophysiological assays would be enabled and encompassed by the disclosure and claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technical Center 1600 general number which is (571) 272-1600.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Gucker whose telephone number is (571) 272-0883. The examiner can normally be reached on Monday to Friday from 0930 to 1800.

Art Unit: 1649

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres, can be reached at (571) 272-0867. The fax phone number for this Group is currently (571)-273-8300.



Stephen Gucker

July 8, 2005